

AMENDMENTS TO THE CLAIMS

1-21. (Canceled)

22. (Currently Amended) A signal processing method comprising:

modifying a primary signal using, at least, first and second auxiliary signals; and

investigating the modified primary signal, wherein each auxiliary signal comprises successive finite-duration shaped portions having relatively low-amplitude leading and trailing parts, the portions being interleaved with, ~~and overlapping,~~ signal portions of the other auxiliary signal such that the leading parts of the portions of each signal overlap the trailing parts of the portions of the other signal.

23. (Previously Presented) The method as claimed in claim 22, wherein each shaped portion has a shape substantially similar to that of a squared cosine.

24. (Previously Presented) The method as claimed in claim 23, wherein each shaped portion is produced using a modified Kaiser window function.

25. (Currently Amended) ~~The method as claimed in claim 22~~ A signal processing method comprising:

modifying a primary signal using, at least, first and second auxiliary signals; and

investigating the modified primary signal, wherein each auxiliary signal comprises

successive finite-duration shaped portions having relatively low-amplitude leading and trailing parts, the portions being interleaved with, and overlapping, signal portions of the other auxiliary signal, and

wherein each finite-duration shaped portion contains multiple different predetermined frequencies.

26. (Previously Presented) The method as claimed in claim 25, wherein each auxiliary signal comprises finite-duration shaped portions containing a first set of frequencies, and intervening finite-duration shaped portions containing a second set of frequencies, the frequencies of the first set being interleaved with the frequencies of the second set.

27. (Previously Presented) The method as claimed in claim 25, wherein the primary signal is additionally modified by third and fourth auxiliary signals, the third auxiliary signal having finite-duration shaped portions which are produced simultaneously with the finite-duration shaped portions of the first auxiliary signal, and the fourth auxiliary signal containing finite-duration shaped portions which are produced simultaneously with the finite-duration shaped portions of the second auxiliary signal, and wherein the simultaneous finite-duration shaped portions of the first and third auxiliary signals contain frequency components in quadrature relationship with each other, and wherein the simultaneous finite duration shaped portions of the second and fourth auxiliary signals contain frequency components in quadrature relationship with each other.

28. (Previously Presented) The method as claimed in claim 26, wherein the primary signal is additionally modified by third and fourth auxiliary signals, the third auxiliary signal having finite-duration shaped portions which are produced simultaneously with the finite-duration shaped portions of the first auxiliary signal, and the fourth auxiliary signal containing finite-duration shaped portions which are produced simultaneously with the finite-duration shaped portions of the second auxiliary signal, and wherein the simultaneous finite-duration shaped portions of the first and third auxiliary signals contain frequency components in quadrature relationship with each other, and wherein the simultaneous finite duration shaped portions of the second and fourth auxiliary signals contain frequency components in quadrature relationship with each other.